

NOTES ON AND ADDITIONS TO THE TERRESTRIAL MOLLUSCAN  
FAUNA OF SOUTHERN ABYSSINIA.

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HAVING recently received two small consignments of land shells from the neighbourhood of Harar, Southern Abyssinia, I have had occasion to study the somewhat scanty literature on the Mollusca of that country. Judging from the number of species sent home from Harar alone, the fauna would appear to be extremely rich and varied, and perhaps this is not surprising when the configuration of the country is taken into account. A glance at the map will show that the whole region is a long series of chain after chain of mountains, rising to an average altitude of 4500 feet, between which occur very hot and arid valleys, and thus it is scarcely to be wondered at, considering the geographical position of the country, that some species almost of a palæarctic character should be met with in company with others which certainly have great affinities with those of the damp and dense forests of other parts of tropical Africa.

It seems probable that little collecting has ever been done in the district immediately surrounding Harar, although in 1874 Jickeli<sup>1</sup> noticed and described many forms from Abyssinia; his work covered the then known Mollusca of a scarcely explored tropical country nearly, if not quite, as large as Spain. Nine years later Bourguignat wrote his "Histoire Malacologique de l'Abyssinie"<sup>2</sup>, in which a number of new forms were described chiefly from Northern and Central Abyssinia, whilst more recently M.M. Neuville and Anthony have published four short lists,<sup>3</sup> culminating in a descriptive paper<sup>4</sup> based on the material obtained by themselves as members of the expeditions of M. Maurice de Rothschild. Though a certain amount of their material was collected in the Dirre Daona and Tchercher Districts, the former directly to the north, and the latter some distance to the east-south-east of Harar, they do not seem to have met with many of those species now sent home from the immediate vicinity of that city, and I think there can be little doubt that when the whole country is carefully and extensively explored the local fauna will be found to be an extraordinarily rich one. All the following species are from Harar, Southern Abyssinia.

<sup>1</sup> "Fauna der Land und Süßwasser-Mollusken Nord-Ost-Afrikas": Nov. Act. Ksl. Leop.-Carol. Deutsch. Akad. Naturforscher, Dresden, 1874, vol. xxxvii.

<sup>2</sup> Annales des Sciences Naturelles, Zool., t. xv, 1883.

<sup>3</sup> Bull. Mus. Hist. Nat. Paris, 1905, No. 2, p. 115; No. 3, p. 196; 1906, No. 5, p. 319; No. 6, p. 411.

<sup>4</sup> "Recherches sur les Mollusques d'Abyssinie (Matériaux de la Collection Maurice de Rothschild)": Annales des Sciences Naturelles, Zool., t. viii, 1908.

## ENNEA ROBERTI, n.sp.

Shell shortly cylindrical, obtuse, imperforate, cream-coloured, smooth, somewhat polished; whorls 7, flat; sutures lightly impressed, narrowly margined; labrum white, rather broadly reflexed; aperture sub-semicircular, bearing a strong, curved, parietal lamella, a group of three lamellæ on the outer wall, of which the middle one is the largest and broadest, a strong revolving lamella at the base of the columella, and above this, and situate well within the shell, a squarish, shelf-like projection, the lower portion of which is thickened into



a strong, white, nodulous tooth grooved down the centre. Alt. (of type-specimen) 12, diam. maj. 3 mm.; aperture, alt. 2, diam. 1.5 mm.

A remarkable shell of which three specimens were collected. These vary in size, the largest being 13, whilst the smallest is only 11.25 mm. in length.

Two of the specimens, though quite fresh-looking, appear to have been neatly bored, on one of the earlier whorls, by some enemy, the hole, though small, being in each case very similar to the circular holes caused by the depredations of *Nassa* on other marine species.

## ENNEA MENELEKI, n.sp.

Shell cylindrical, obtuse, white, polished, shining; whorls 9, flat, the last bistrangulate at the base; sutures incised, roughly crenellate; labrum white, thickened, narrowly reflexed; aperture sub-quadrate, bearing a single obliquely curved parietal lamella, two nodulous basal



lamellæ, one situated below the other on the outer wall, and a broad, squarish, shelf-like tooth at the base of the columella. Alt. 6.25, diam. maj. 2 mm.; aperture, alt. 1.25, diam. .75 mm.

## HELICARION HARARENSIS, n.sp.

Shell inflated, with depressed spire, moderately large and solid, the earlier whorls pink, the last two pale olive-green; whorls 4, marked with transverse, arcuate growth-lines; sutures impressed, margined,

whitish ; base of shell convex ; columella white, excavated, a thin, roughish callus joining it with the lip above ; labrum acute, arcuate ;



aperture wide, ovate. Alt. 15·5, diam. maj. 24, min. 16·75 mm. ; aperture, alt. 14, diam. 14·5 mm.

*HELICELLA (LEJEANIA) ROSENBERGI*, n.sp.

Shell globosely turbinate, perforate, slightly shining, pale brown, painted with transverse streaks and spiral bands of white ; whorls 6, flattened, the last descending in front, sculptured with coarse, transverse, arcuate riblets, and undulating, spiral, scratch-like striæ ; sutures somewhat lightly impressed, minutely crenellate ; base of shell moderately inflated ; umbilicus somewhat open, deep ; columella



reflexed, whitish, descending obliquely, excavated in the middle ; labrum thin, acute, slightly reflexed ; aperture oblique, broadly sub-lunate. Alt. 11·25, diam. maj. 16, min. 13·5 mm. ; aperture, alt. 6·75, diam. 6 mm.

A very variable species of which the principal forms are described below.

Var. *DEPRESSA*.

Much more depressed than the typical form. Alt. 7, diam. maj. 13·5, min. 13 mm. ; aperture, alt. 5, diam. 6 mm.



Var. *ALBIDA*.

More depressed than the type and nearly white, the brown ground colouring being changed to very pale greyish-white, whilst the white bands and streaks remain in an intensified form. Alt. 8, diam. maj. 14·25, min. 10·5 mm. ; aperture, alt. 5·75, diam. 6 mm.

*BULIMINUS AFFINIS*, n.sp.

Shell small, thin, hyaline, the earlier whorls bronze-coloured, the later yellowish-brown horn colour ; whorls  $6\frac{1}{2}$ , convex, sculptured with very fine, regular, oblique, transverse growth-striæ ; sutures

deeply impressed; perforation very narrow, almost concealed by the reflexion of the columella; columella reflexed, diaphanous; labrum simple; aperture ovate. Alt. 10, diam. maj. 5, min. 4.5 mm.; aperture, alt. 3.5, diam. 2 mm.



Very closely allied to *B. eminulus*, Mor., but differing from that species in having broader and less convex whorls; moreover, in the present species there is one whorl less than in *B. eminulus*.

#### CERASTUS OLIVIERI, Pfr.

A number of specimens in every stage of growth and showing great variation, the dimensions of the smallest and largest adults being as follows (measurements in millimetres):—

<i>Smallest.</i>	<i>Largest.</i>
Alt. . . . . 22.5	Alt. . . . . 34.25
Diam. maj. . . . 13	Diam. maj. . . . 16
Diam. min. . . . 11.75	Diam. min. . . . 14.75
Aperture, alt. . . 11	Aperture, alt. . . 15
Aperture, diam. . 5.5	Aperture, diam. . 6.75

#### CERASTUS NEUMANNI, Kob.<sup>1</sup>

A few examples which I am unable to separate from the specimen of this species in the British Museum, and which was originally described from the neighbourhood of Harar.

#### CERASTUS SINUOSUS, Bgt.<sup>2</sup>

Also a few specimens, smaller, shorter, and rather more globose than the last, and which, judging from the figures and dimensions which I have seen of this species, I am able to refer to it.

#### CLAUSILIA SENNAARIENSIS, Pfr.

A number of specimens which show some variation in length, though the sculpture is in all cases very constant; the largest is 13 mm. long, whereas the smallest is but 10.75.

#### ACHATINA ARIEL, n.sp.

Shell small, subulately fusiform, thin, transparent, pale yellow; whorls 8, sculptured, especially above, with fine, irregular, transverse riblets; sutures impressed, somewhat crenellate, very narrowly

<sup>1</sup> Martini-Chemnitz, Syst. Conch. Cab., Die Bulimidæ, Theil ii, p. 745, sp. 417, pl. ex, figs. 1, 2.

<sup>2</sup> "Histoire Malacologique de l'Abyssinie": Annales des Sciences Naturelles, Zool., t. xv, p. 49, fig. 63, 1883.

margined; columella vertically descending, obliquely truncate; labrum simple, acute; aperture elongately inversely auriform. Alt. 18, diam. maj. 7.75, min. 7 mm.; aperture, alt. 8, diam. 3.75 mm.



A delicate little species which is perhaps the least of the true *Achatinæ* yet described. Notwithstanding the small dimensions of the specimens before me, I think there can be no doubt that they are fully adult.

*LIMICOLARIA JICKELIANA*, n.sp.

Shell elongately ovate, white, painted with reddish chestnut transverse flame markings; whorls 7, moderately inflated, presenting a somewhat finely malleated appearance; sutures impressed, crenellate with the lines of growth; umbilicus very narrow, deep, half concealed by the reflection of the columella; columella white, reflexed, slightly excavated above, descending vertically, a thin callus joining it with the lip above; labrum acute, aperture broadly inversely auriform; interior of shell very pale bluish white, and showing the chestnut



colour-bands through the shell. Alt. 34.5, diam. maj. 18, min. 16.5 mm.; aperture, alt. 15, diam. 8 mm.

Allied to *L. oviformis*, Ancey,<sup>1</sup> from the Somali coast, but smaller, with less inflated whorls, straighter columella, and lacking the fine decussate sculpture of that species.

A specimen of the egg was also sent home with the shell; its dimensions are, length 5.25, breadth 3.5 mm.; it is elongately ovate, calcareous, and of a dirty white colour.

<sup>1</sup> Nautilus, vol. xiv, p. 42; Journ. de Conch., vol. xlix, p. 140.

*HOMORUS PRINCEPS*, n.sp.

Shell moderately solid, with blunt apex; earlier whorls pale yellowish white, later whorls painted and transversely streaked and banded with reddish and blackish brown; whorls 10, somewhat flattened, sculptured with fine transverse striæ crossed by fine spirals, thus presenting a finely decussate appearance; base of shell smooth excepting lines of growth; sutures impressed, crenellate; columella



obliquely curved, abruptly truncate; labrum acute, simple; aperture inversely auriform; interior of shell polished, bluish white, shading to a violet hue near the aperture. Alt. 51, diam. maj. 15, min. 14 mm.; aperture, alt. 14.5, diam. 6.5 mm.

A very handsome species whose large size and finely decussate appearance easily separate it from other Abyssinian members of the group.

*HOMORUS PERLUCIDA*, n.sp.

Shell solid, subulate, with sub-mamillary apical whorls, thin, transparent, polished, shining, pale yellow; whorls 9, flattish, faintly marked with fine transverse growth-lines; sutures impressed, margined below; columella excavated above, descending in a curve; labrum



simple, acute; aperture inversely auriform. Alt. 13.5, diam. maj. 3, min. 2.75 mm.; aperture, alt. 3, diam. 1.75 mm.

A pretty little species, and one which would seem to be very hardy, as many of the specimens revived when placed on damp wadding and

devoured lettuce with avidity; the animal is dorsally of a slaty-black colour, shading to dirty greyish yellow on the foot and posterior portion of the body; they are very sluggish in their movements, trailing their heavy shells behind them as they crawl; nearly all the shells contained eggs, which were, in a few cases, pushed out as the animal emerged. They are large for the size of the animal, very white, elongately oval, and calcareous; measuring 1.5 mm. in length by 1 mm. in breadth.

ITIOPIANA, n.sect.

Shell differing from *Subulina (sensu stricto)* in having all but the embryonic whorls finely decussately sculptured.

SUBULINA (ITIOPIANA) MENELEKI, n.sp.

Shell subulate with sub-mamillary apical whorls, rather thin, pale yellowish brown; whorls  $12\frac{1}{2}$ , somewhat flat, the earlier whorls minutely pitted, the later whorls indistinctly spirally striate and sculptured with fine, very closely set, transverse striæ; sutures



impressed, slightly crenellate; columella curved and slightly twisted, rather abruptly truncate; labrum thin, acute; aperture inversely auriform. Alt. 29.75, diam. maj. 6.25 mm.; aperture, alt. 6.25, diam. 3 mm.

SUBULINA (ITIOPIANA) VICINA, n.sp.

Shell subulate with sub-mamillary apical whorls, rather thin, pale waxy yellow; whorls 12, moderately convex, the first two and a half smooth, shining, the later whorls finely, spirally striate, and sculptured with fine, very closely set, transverse striæ, giving to the shell a minutely decussate appearance; sutures impressed, scarcely crenellate; columella somewhat obliquely curved, obliquely truncate below, and diffused above into a thin, whitish callus, which extends upwards to the insertion of the last with the penultimate whorl, but does not quite reach to the margin of the aperture; labrum acute(?); aperture inversely auriform. Alt. (of largest specimen, allowing for the apical whorls) 21.5, diam. maj. 6.5 mm.; aperture, alt. 6.5, diam. 2.5 mm.

Differing from the last species by its smooth apical whorls, more convex lower whorls, and more deeply impressed though less crenellated sutures; the sculpture also has a much more decussate appearance, and the columella is more obliquely truncate, while



being diffused above into a callus, which is not the case with *Itiopiana Meneleki*. In the only specimens which I have seen the outer lip is broken, but I think that there is no doubt that when intact it is single and acute.

*SUBULINA (ITIOPIANA) NYMPHA*, n.sp.

Shell differing from the two preceding species in its smaller size and more slender and graceful form; it possesses but  $10\frac{1}{2}$  whorls, and



the sutures are margined. Alt. 18, diam. maj. 4 mm.; aperture, alt. 3.75, diam. 1.5 mm.

*LIMNÆA AFRICANA*, Rüpp.

A single specimen having the following dimensions: alt. 17.75, diam. maj. 10.5, min. 7.75; aperture, alt. 13, diam. 6.75.